

CHEETAH

RUGGEDIZED CAMERA SERIES

Front View

Rear View

C2820 CMOS 8.1 MP Camera Link®

PRELIMINARY

Imperx: C2820

The CLF-C2820 ultraviolet camera features the Sony Pregius S™ IMX487 Global Shutter CMOS sensor with a native resolution of 2856 x 2848 in a 2/3" optical format capturing images in the UV spectral range from 200 nm to 400 nm and delivering up to 59 frames per second with Camera Link® [Power over Camera Link (PoCL®)] output. The Pregius S technology uses a stacked back-illuminated pixel structure with a double A/R coated quartz glass window offering reduced pixel size, and quantum efficiency similar to the popular ICX407(UV) image sensor. The C2820's flexibility, image quality, and speed make it suitable for a broad range of diverse and demanding applications, but "one size doesn't fit all," and Imperx can help optimize the camera to your exact requirements.

Specifications

Feature	Description	Feature	Description
Output Interface	Camera Link® Base, Medium, Full w/PoCL®	Strobe Output	2 strobes, programmable position and duration
Resolution	2856 (H) x 2848 (V)	Pulse Generator	Yes, programmable
Sensor	Sony Pregius S IMX487 CMOS Ultraviolet	Data Correction	4 LUTs pre-programmed with Gamma 0.45; Bad pixel correction (static, dynamic) Flat field correction
Spectral Range	200 nm–400 nm	Lens Mount	C-Mount (default)
Sensor Format	7.8 mm (H) x 7.8 mm (V), 2/3" optical format (11.1 mm diagonal)	P-IRIS	Optional
Pixel Size	2.74 microns square	P-IRIS Control	Auto, Programmable
Shutter	Global shutter (GS)	Supply Voltage Range	12 V DC (6 V – 30 V), 1.5 A inrush @ 12 V
Sensor Digitization	8, 10, 12-bit	Power Consumption	Typical: 2.4 W
Frame Rate	59 fps (8-bit), 48 fps (10-bit), 40 fps (12-bit)	Camera Current	Typical: 200 mA @ 12 V
Dynamic Range	71 dB	PoCL	PoCL capable in Base/Medium/Full mode
Output Bit Depth	8, 10, 12-bit	Size - Width/Height/Length	37.0 mm (W) x 37.0 mm (H) x 47.2 mm (L)
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps	Weight	103.4 g
Digital Gain	1x (0 dB) to 4x (12 dB) with a precision of 0.001x	Vibration, Shock	Complies with IEC60068-2-64 and IEC60068- 2-27
Black Level Offset	Manual (0 – 255), Auto	Environmental	-30 °C to +75 °C Operating; -40 °C to +85 °C Storage
White Balance	Manual, Auto, Once, Off	Humidity	10% to 90% non-condensing
Shutter Speed	8 µs to 16.0 s	MTBF	Not Specified ¹
Exposure Control	Off, Manual, External, Auto	Military Standard	MIL-STD-810G
Regions of Interest (ROI)	2 ROI	Regulatory	FCC Part 15, CE, RoHS, UKCA
Binning	1x1, 2x2		
Sub-sampling	1x1, 2x2		
Trigger Inputs	External, Pulse generator, Software, Computer		
Trigger Options	Edge, Pulse width, Trigger filter, Trigger delay, Debounce		
Trigger Modes	Free run, Standard, Fast		
External Inputs/Outputs	2 IN (OPTO, LVTTTL) / 2 OUT (OPTO, TTL)		

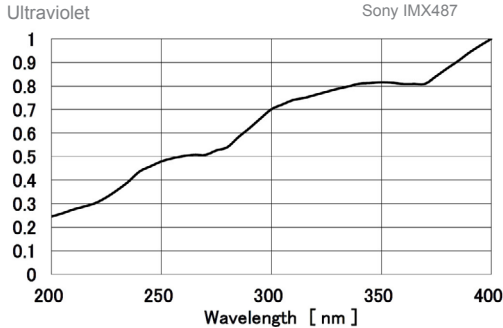
¹ UV illumination inherently damages the image sensor increasing image sensor dark current with dose. The amount of damage and the useful life of the image sensor is dependent upon the radiant power and duration. For more information, contact Imperx.

Imperx: C2820 Applications

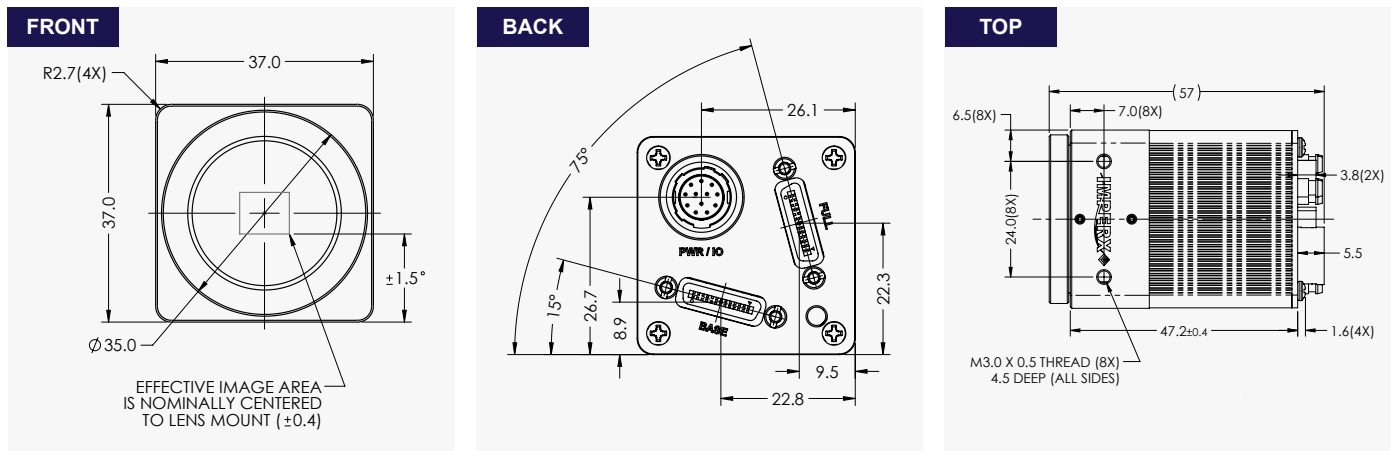
The CLF-C2820 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Infrastructure Inspection • Sorting Materials • Mask Inspection • Printing Inspection • Semiconductor Manufacturing • Printed Circuit Board Inspection • Flat Panel Display Inspection • Scientific Imaging • Metrology • High-Resolution Microscopy • UV Spectroscopy • Fluorescence Analysis • Food Processing • Astronomy • Machine Vision • Aerial Imaging • Unmanned Aerial Vehicles

Spectral Sensitivity



Dimensions

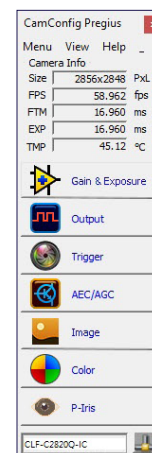


Ordering Information

Output Interface
Camera Link® Full (CLF) w/PoCL®
Sensor Types available
Q – Ultraviolet with quartz glass cover
W – Ultraviolet without glass cover

Lens Mounts
C-Mount (Default) P-Iris (optional)
Accessories (Sold separately)
PS12V14A – Power Supply w/ 1 input & 1 output
PS12V18A – Power Supply w/ 1 input, 1 output, and a P-Iris connector
CBL-PWIO01 – Power Cable; Hirose 12p (F) to loose end; 2 meters

Software/Drivers/Interface



Hirose Connectors

Power and I/O Interface
1. 12 VDC Return 2. +12 VDC 3. Reserved 4. Reserved 5. OUT2 RTN (OPTO) 6. OUT1 RTN 7. OUT1 (TTL) 8. IN1 (OPTO) 9. IN2 (LVTTTL) 10. IN1 RTN 11. IN2 RTN 12. OUT2 (OPTO)

Connector: Hirose HR10A-10R-12PB(71)

Rev: c_l_c2820_r3_2023

Quality Management System ISO 9001:2015 Registered
 Environmental Management System ISO 14001:2015 Registered
 DDTC Registered (Directorate of Defense Trade Controls, US Department of State)



IMPERX 6421 Congress Ave., Boca Raton, FL 33487, USA
 Tel: +1-561-989-0006. Email: sales@imperx.com

WWW.IMPERX.COM

Technical data has been fully checked, but accuracy of printed matter is not guaranteed. Subject to change without notice. Copyright 2023